



Case report

Homicidal smothering on toilet paper: A case report

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ABSTRACT

Toilet paper is a ubiquitous personal hygiene product that is usually considered harmless. It was reported however to have been used as a mean of self-destruction in two unusual suicides, and is here reported to have been used to commit homicide. The body of a 91-year-old woman suffering from Alzheimer's disease was found in the bedroom of her nursing home, a roll of toilet paper near the body and toilet paper protruding from the mouth. At autopsy, pellets of toilet paper were impacted in the buccal cavity and the laryngopharynx above the epiglottis. The cause of death was established as smothering on toilet paper, whereas the manner of death was ruled as homicidal. Non-lethal blunt head injuries were considered to be a contributive factor, by lowering the victim's resistance. The perpetrator was another elderly woman, also suffering from Alzheimer's disease.

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1. Introduction

Before the invention of toilet paper, different objects were used to maintain personal hygiene after defecation. In Ancient Rome, a sponge soaked in salt and poked on a stick was used by common people, while rich people employed balls of wool soaked in rose water.¹ Balls of discarded sheep's wool were utilized by Vikings; frayed end of anchor ropes by the Navy. Balls of straw or grass were commonly used, later to be replaced by tear sheets from catalogs or books.¹

The first packaged toilet paper was commercialized in 1857 by Joseph Gayetty in New-Jersey.^{1,2} It was sold as pile of flat sheets containing aloe, and watermarked with the inventor's name on each sheet. In 1980, the Scott Paper Company started to commercialized a toilet paper wrapped on a roll.¹ The original large rolls of paper were later redesigned as smaller rolls similar to the one in use now.

In this day and age, toilet paper is a ubiquitous personal hygiene product that is considered harmless. It was reported however to have been used as a mean of self-destruction in two unusual

suicides.^{3,4} Here reported is the first case of homicide by smothering on toilet paper. This case is also interesting to illustrate the application of the new standardized classification of asphyxia proposed by one of the authors.

2. Case report

A 91-year-old woman was found dead in the bedroom of her nursing home by the night watchman. The body was covered by various papers. A roll of toilet paper was found near the body. Traumatic injuries were immediately visible on the skin and several sheets of toilet paper protruded from the mouth. There were no witnesses of the incident. The victim had a clinical history of asthma, dementia and overall bad physical condition. She used to live at home with her family, but after being diagnosed with Alzheimer's disease secondary to committing heteroaggressive acts, her family was not able to take care of her anymore and she was placed in a nursing home.

The external examination revealed signs of malnutrition and dehydration. There were acute blunt head injuries, with bilateral periorbital hematoma, diffuse left-sided hematoma of the scalp, and multiple bruises of the chin, the left mandible, the right cheekbone, and the right ear. Small abrasions and bruises, as well as residues of toilet papers, were noticed around the lips (small

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abrasions and bruise of the left angle of the mouth, small linear abrasions around the superior labia on the right side). Upper extremities also presented with bruises and abrasions, particularly on the hands and forearms. A slight cyanosis of the nail bed was noticed. Full body X-rays showed no skeletal trauma.

At autopsy the only evidence of internal trauma was 2nd to 5th left rib fractures without associated hemothorax or pulmonary injury. Neither cranial nor intracranial injury was noted (no skull fracture, no intracranial bleeding and no brain contusion). There was a blockage of the laryngopharynx above the epiglottis caused by impaction of a voluminous toilet paper pellet in the buccal cavity. No foreign body was found below the epiglottis. There was no laryngeal fracture. The heart weighed 370 g and the coronaries showed moderate atherosclerosis on the left and right side. The right lung weighed 510 g and the left lung 430 g. The stomach was empty. The autopsy was otherwise unremarkable. Histology and toxicology were not requested by the public prosecutor's office (in France, the legal medical doctor do not have the power to order such test if the prosecutor's office do not require them for financial reasons). Death was attributed to smothering on toilet paper. Blunt force head trauma was considered a contributing factor by lowering the victim's resistance but the blunt force trauma documented at autopsy was not lethal. The manner of death was ruled as homicidal.

In the course of the criminal investigation, the first suspect was the night watchman. The investigation had revealed that he had moved the body from the hallway, where it was initially found, to the bedroom. He explained however that he did so in order to avoid that other nursing home residents would see the body before the police's arrival. The second and final suspect was an elderly woman residing in the same nursing home. She became a suspect after some of her personal items were found around the body of the victim. It was thought that the woman used her walking stick as a weapon. She was suffering from advanced Alzheimer's disease and the police was unable to question her. As a result, in accordance with the French law, she was judged mentally irresponsible and was transferred to a mental institution.

3. Discussion

Smothering and choking are both asphyxial deaths caused by an obstruction of the air passages.⁵ Until recently, there was a lot of confusion in the literature as to the anatomical landmark serving as a frontier to these two diagnoses. Smothering had been defined as (a) obstruction at the level of the nose and mouth, (b) obstruction of the external airways and (c) obstruction of the upper airways.⁵ As for choking, several definitions coexisted as well: (a) synonym of food or foreign body inhalation regardless of the anatomical localization, (b) obstruction at the level of the mouth, oropharynx and larynx, (c) obstruction of the larynx, trachea or bronchi, (d) obstruction of the airways, (e) obstruction of the internal airways, (f) obstruction of the upper airways, (g) obstruction of the upper internal airways.⁵

In order to achieve uniformization of the forensic classification of asphyxia, a standardized classification was recently proposed.⁵ In this new classification, the epiglottis was chosen as the ideal anatomical landmark between smothering and choking. Following this new classification, smothering is defined as asphyxia by obstruction of the air passages above the epiglottis, including the nose, mouth and pharynx, whereas choking is defined as asphyxia by obstruction of the air passages below the epiglottis.⁵ If the obstruction is localized to areas both above and below the epiglottis, the case should be ruled as choking.⁵

The two previous case reports of death by obstruction of the airways by toilet paper are a good illustration of the former lack of uniformity in the use of these terms. In 2006, Sauvageau & Yesovitch published the case of a 58-year-old schizophrenic male that was found deceased in his foster home with a large blob of toilet paper stuffed in his mouth.⁴ The man was known to have committed a previous suicide attempt by ingesting medication and filling his mouth with toilet paper. At autopsy, the toilet paper was documented to fill the victim's mouth and posterior throat, extending to just below the epiglottis. The death was certified as suicidal choking. A year later, Saint-Martin et al published the case of a 30-year-old man suffering from borderline personality disorder who committed suicide while hospitalized in a psychiatric unit.³ He was found dead in a seclusion room, with pellets of toilet paper protruding from his mouth. At autopsy, five pellets of toilet paper were found impacted within the laryngopharynx, the upper esophagus, and the upper part of the trachea. At the time, the case was ruled out a suicidal smothering. Despite the striking similarity between these two cases, one was classified as smothering and the other as choking. Considering the new proposed standardized classification of asphyxia, the two cases should be re-classified as choking.⁵

Therefore, the two previously reported cases of toilet paper-related death are suicidal chokings. Apart from these two cases, there is no other case to be found in Medline database (checked on November 22, 2011). As for textbooks, the only mention of deaths by toilet paper is a single un referenced sentence in the textbook by DiMaio: "In infants, one occasionally sees a newborn murdered by stuffing toilet paper into its mouth".⁶ Apart for this isolated sentence, unsupported by case report or study, no other mention of death by toilet paper was found in other textbooks.^{7–10}

Conflict of interest statement

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